

Algebra I
Intro to System of Equations Word Problems

Name: _____

A company ordered new bookcases and file cabinets, which arrived in two shipments. One shipment contained 6 bookcases and 11 file cabinets and was accompanied by an invoice for \$956. A second shipment contained 9 bookcases and 5 file cabinets and was accompanied by an invoice for \$698. Write a system of equations and then solve the system to find the cost of each bookcase and each file cabinet.

- a. What two things is the question asking you to find?
- b. Label one unknown x and the other unknown y
- c. Write an equation to represent the cost of shipment 1
- d. Write an equation to represent the cost of shipment 2
- e. Solve your system.

At a local music store, single-recording tapes cost \$6.99 and concert tapes cost \$10.99. At the end of the day a total of 25 tapes were sold. The total tape sales for the day total \$230.75. Write a system of equations and then solve the system to find how many of each type of tape was sold.

- a. What two things is the question asking you to find?
- b. Label one unknown x and the other unknown y
- c. Write an equation to represent the total number of tapes sold
- d. Write an equation to represent the total tape sales
- e. Solve your system.

Algebra I

Name: _____

Lesson:

Date: _____

A. When Dale baby-sat for 8 hours and worked at a restaurant for 3 hours, he made a total of \$58. When he baby-sat for 2 hours and worked at the restaurant for 5 hours, he made a total of \$40. How much does Dale get paid for each type of work?

B. Mr. Moore sells his tractor for \$6000. He makes two investments, and at a bank paying 5% interest per year and the rest in stocks yielding 9% interest per year. If he earns a total of \$380 in interest in the first year, how much is he invested at each rate?

C. Pam sells racing team caps at her concession stand at a car show. She has 100 of last year's caps and 300 of this year's. Pam knows from past experience that her customers will pay \$7 more for this year's caps than last year's. She has calculated that she needs to make \$5300 in sales of caps. Assuming she will sell all of the caps, how much should Pam charge for each type of cap?

D. Greg is a star player on the basketball team. In one game, his field-goal total was 20 points, made up of 2-point and 3-point baskets. If Greg made a total of 9 baskets, how many of each type did he make?

E. At the boy scout "all you can eat" spaghetti dinner, the troop served 210 people and raised \$935. Adult meals cost \$6.00 and child meals cost \$3.50. Find the number of adults and children who attended the dinner.

Practice:

1. Rebecca is the star forward on her high-school basketball team. In one game, her field-goal total was 23 points, made up of 2-point and 3-point baskets. If she made 4 more 2-point baskets than 3-point baskets, how many of each type of basket did she make?

2. A mail-order company charges for postage and handling according to the weight of the package. A small package costs \$2.00 for shipping and handling, and a large package costs \$3.00. An order of 12 packages had a total shipping and handling cost of \$29.00. Find the number small packages and large packages.

3. Beth has saved \$4500. She would like to earn \$250 per year by investing her money. She received advice about two different investments: a low-risk investment that pays a 5% annual interest and a high-risk investment that pays a 9% annual interest. How much should Beth invest in each type of investment to earn her annual goal?